(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 7 July 2005 (07.07.2005)

PCT

(10) International Publication Number WO 2005/061090 A1

(51) International Patent Classification⁷: 2/06, A61K 9/16

B01J 2/04,

(21) International Application Number:

PCT/SE2004/001936

(22) International Filing Date:

20 December 2004 (20.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0303476-6

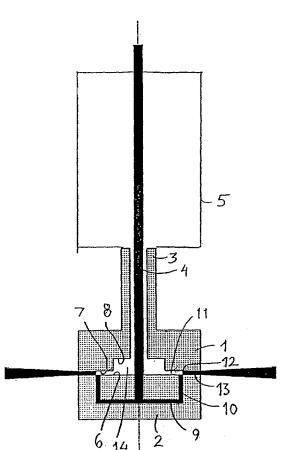
22 December 2003 (22.12.2003) SE

(71) Applicant (for all designated States except US): CENS-DELIVERY AB [SE/SE]; c/o Karolinska Innovation AB, Fogdevreten 2 B, S-171 77 Stockholm (SE).

- (72) Inventor; and
- (75) Inventor/Applicant (for US only): DEMIRBÜKER, Mustafa [SE/SE]; Högbyvägen 76, S-175 54 Järfälla (SE).
- (74) Agents: KARLSSON, Leif et al.; Groth & Co. KB, Box 6107, S-102 32 Stockholm (SE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: DEVICE, METHOD AND USE FOR THE FORMATION OF SMALL PARTICLES



(57) Abstract: The invention relates to a device for producing small particles of a certain substance. The device includes first inlet means (4) for a solution or a suspension containing the substance and second inlet means (3) for an atomizing agent. The device further includes mixing means (12) for the solution and the atomizing agent and outlet means (13) for the particles. First (9, 10) and second (14, 11) conduit means are provided from the first (4) and second (3) inlet means respectively to the mixing means (12). According to the invention the first (9, 10) and second (14, 11) conduit means meet each other at the mixing means (12) at an angle of at least 30o. The invention also relates to a corresponding method and to use of the device and the method as well as to particles obtained by the method.

WO 2005/061090 A1

WO 2005/061090 A1



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA,

ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— of inventorship (Rule 4.17(iv)) for US only

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.